

A B S T R A C T

The invention provides a routing method for a multiplex system having N inputs each designed to receive one of N input multiplexes each having M input channels, each of the channels serving to transport an input packet, and N' outputs each serving to generate one of the N' output multiplexes each made up of output channels each serving to transport an output packet, each of the M channels in use in the input multiplex comprising a data packet associated with an input header serving firstly to identify the packet and secondly to specify at least one output to which it is to be routed, wherein each of the N' output multiplexes has $M+L$ channels where $L \geq 0$, and wherein the method implements the following operations:

- for the data, multiplexing N input channels each having M multiplexed packets so as to generate an aggregate multiplex signal comprising all of the data packets representing the N input multiplexes; and
- for each of the N' outputs, providing the inputs of $M+L$ parallel selection chains with access to the aggregate multiplexed signal;
- for the input headers, performing demodulation and decoding;
- for the output headers, performing encoding and modulation on the basis of the demodulated and decoded input headers; and
- for the headers and the data, selecting from \underline{n} of the $M+L$ selection chains corresponding to the k^{th} output on the basis of the input headers corresponding to \underline{n} packets that are to be routed to the k^{th} of the N' outputs, the corresponding \underline{n} data packets in the aggregate multiplexed signal and multiplexing these \underline{n} data packets with an output header in order to generate the k^{th} output multiplex, where $k = 1, 2, \dots, N'$.